

**WRITTEN STATEMENT OF
THE U.S. SECURITIES AND EXCHANGE COMMISSION
CONCERNING THE PERFORMANCE OF THE SECURITIES
MARKETS DURING THE NORTHEAST POWER OUTAGE
AND HURRICANE ISABEL
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,
COMMITTEE ON FINANCIAL SERVICES,
UNITED STATES HOUSE OF REPRESENTATIVES**

OCTOBER 20, 2003

Chairwoman Kelly, Ranking Member Gutierrez, and Members of the Subcommittee:

The Securities and Exchange Commission (“SEC” or “Commission”) is pleased to submit this statement concerning the performance of the securities markets during the northeast power outage on August 14-15, 2003. Overall, it appears that most of the markets, clearing organizations, and other critical market participants within the areas affected by the August power failure operated remarkably well under these trying conditions. The extensive business continuity planning that these organizations have conducted under the Commission’s oversight over the last ten years provided them with the requisite expert personnel, backup systems, and procedures to operate through the grid failure and overcome unanticipated byproducts of the electrical outage. Moreover, while Hurricane Isabel did not significantly affect the financial markets, the precautions that were taken in anticipation of this event serve to illustrate the contingency planning and emergency management efforts that the Commission undertakes with the securities markets and supporting organizations to address the myriad types of threats that might disrupt the orderly operation of the markets.

THE COMMISSION’S INITIATIVES IN BUSINESS CONTINUITY PLANNING

As the agency chiefly responsible for the nation’s securities markets, the Commission has established a number of programs to improve the resiliency of this critical financial sector. For example, in the early 1990s, the Commission established its Automation Review Policy (“ARP”) and a cadre of specialized staff to review the capacity and resiliency of the securities markets and clearing organizations.¹ The Commission’s ARP staff inspects the information technology systems of these entities and controls over those systems, participates in periodic comprehensive evaluations of these systems, and issues recommendations for improvements in these programs as necessary. Moreover, the Commission has worked extensively with the markets and clearing organizations since the tragic events of September 11th to improve their capacity to withstand wide-scale disruptions. These efforts have included fostering the development of backup data centers and trading floors, as well as agreements between markets to serve as backup

¹ In anticipation of the Year 2000 conversion, the Commission’s ARP program was subsequently extended to electronic trading systems known as Electronic Communication Networks (“ECNs”).

trading venues for each other's securities if events warrant. The Commission has also worked with other regulators to establish best practices guidelines to strengthen the resilience of core clearance and settlement organizations.² The SEC has supplemented these efforts by issuing a Policy Statement that sets forth certain basic principles of business continuity planning, including a next-day resumption goal, that should be applied by the trading markets.³ The SEC staff intends to engage in an ongoing and individualized dialogue with each equity securities trading market, including ECNs, to discuss application of these principles in a manner most appropriate for the particular trading market.

THE NORTHEAST POWER GRID FAILURE

The Commission carefully monitored developments throughout the northeast power grid failure on August 14-15, 2003. As part of this effort, the staff consulted repeatedly with officials at the securities markets and clearing organizations within the affected areas in the greater New York metropolitan region. In addition, the staff conducted a series of conference calls during the outage that provided opportunities for markets and clearing organizations outside of New York to hear directly from the affected organizations concerning how they were coping with the power failure and how they planned to operate under these conditions. Moreover, the Commission staff participated in a number of calls with other financial regulators within the interagency working group known as the Financial and Banking Information Infrastructure Committee ("FBIIC") in order to keep them apprised of how the power outage was affecting critical markets and market participants.

² The SEC, together with the Federal Reserve and the Office of the Comptroller of the Currency, recently published an *Interagency Paper on Sound Practices to Strengthen the Resilience of the U.S. Financial System*, SEC Release No. 34-47638 (April 7, 2003) ("Interagency Paper") that identified "sound practices" relating to business continuity planning for certain key market participants. The goal of this project was to minimize the immediate systemic effects of a wide-scale disruption by assuring that the key payment and settlement systems could resume operation promptly following a wide-scale disaster, and major participants in those systems could recover sufficiently to complete pending transactions. In this way, market participants unaffected by the disaster could continue to operate with minimal disruption and, when those impacted by the event were in a position to resume operations, the critical infrastructure would be available for them to do so. The sound practices identified by the Interagency Paper include: (1) intraday resumption or recovery goals; (2) maintenance of sufficient geographically dispersed resources to meet those goals; and (3) routine testing of business continuity arrangements. The Interagency Paper, however, focuses only on the key payment and settlement systems, and does not address the resilience of the trading markets.

³ SEC Release No. 34-48545 (September 26, 2003).

1. Major Equity Markets Performed Well

The power grid failure began to affect New York City at approximately 4:11 p.m. on Thursday, August 14, 2003.⁴ By this time, the vast majority of trading in the stock and options markets had already ended,⁵ and New York-based markets reported that their back-up electrical power enabled them to conduct an orderly shut down of their systems so as to preserve essential trading data. Moreover, New York-based clearing organizations reported that their back-up power capacity permitted these entities and their clearing firms to successfully complete the critical processing that occurs after the trading day (clearing trades, settling trades, transferring securities and funds, etc.).

Later on Thursday evening, the two largest U.S. stock markets, the New York Stock Exchange (“NYSE”) and the Nasdaq Stock Market (“Nasdaq”), announced their intention to open for trading the next morning. Overnight on Thursday, the NYSE prepared for the next day’s trading by using power from batteries and generators at its Wall Street trading floor.⁶ By the 9:30 a.m. market opening, however, the Wall Street trading floor was able to convert back to utility power, which was maintained throughout the Friday trading session. Nasdaq’s operational center operated on generators until 11:00 p.m. on Thursday, but was back on utility power afterwards and throughout Friday’s session. Utility power at Nasdaq’s backup center was not interrupted. Both the NYSE and Nasdaq were able to operate regular trading hours on Friday. In addition, the International Securities Exchange (“ISE”), a New York-based electronic options exchange, was able to trade normal hours on Friday using generator power. Moreover, several active ECNs located in the New York area also were able to operate normal hours on Friday using batteries, generators, or utility power.

The American Stock Exchange (“Amex”), however, experienced an unanticipated byproduct of the electrical grid failure that prevented the exchange from operating as planned on Friday. Over Thursday night, the Amex prepared to open on Friday using generators for its electronic systems. At around 2:00 a.m. on Friday, however, there reportedly was a sharp drop off in the steam feeds generated by Consolidated Edison that the Amex uses for the cooling system that is needed for the electronics on the exchange’s trading floor.⁷ While the Amex’s off-site back-up trading floor had adequate generator

⁴ All times are Eastern.

⁵ The regular trading session for stocks closes at 4:00 p.m., while the trading session for equity options closes at 4:02 p.m. The trading sessions for stock index options and most exchange-traded funds (“ETFs”) close at 4:15 p.m. In addition, after-hours trading in stocks continues after 4:00 p.m. on Nasdaq and a number of exchanges and ECNs, although after-hours trading volume rarely accounts for more than 3% of total daily share volume in stocks. There were no reported problems in post-4:11 p.m. trades in any of these securities on Thursday.

⁶ The NYSE’s backup trading floor also had generator capacity in case this facility was needed.

⁷ The Amex indicated that the Consolidated Edison steam system never failed before, including during the massive power outages in the 1960s and 1970s and on September 11, 2001. In view of the events during the August 2003 blackout, however, the Amex will be working with the SEC to

and cooling capacity to operate, exchange officials determined that there was not adequate time to fully activate this floor and relocate key personnel to this site on Friday. As a result, Amex officials decided instead to obtain a back-up steam-generation boiler to support its main trading floor even if this required a delay in its trading session. The Amex apprised the SEC staff of this determination early on Friday morning⁸ and the staff briefed the FBIIC agencies on this situation immediately thereafter.⁹ The Amex was able to obtain a back-up steam-generation boiler with the assistance of the New York City Office of Emergency Management (“OEM”). This boiler was installed at noon and the Amex began accepting orders in its stocks, ETFs, and options at 3:45 p.m. for closing rotations in these securities from 3:55 p.m. until 4:15 p.m.

Another unanticipated byproduct of the power outage involved deteriorations in the reliability of telecommunications within the affected areas. As was evidenced on September 11, 2001, impaired telecommunications can severely interfere with the orderly operation of the securities markets.¹⁰ Although the telecommunication problems experienced during the power outage were not nearly as prolonged or widespread as those following the events of September 11th, the sporadic cell and landline telecommunications interruptions on August 14-15 did adversely affect some efforts to ensure that normal trading operations could resume. For example, some firms reported that problems with cell phone communications interfered with efforts of their disaster recovery teams to coordinate effectively with some of their key personnel who were scattered over New York on the evening of August 14. In addition, even on the following morning, a regional exchange outside of New York reported that problems at a landline telecommunications vendor appeared to interfere with its intermarket trading system linkage to the NYSE. Moreover, one of the larger ECNs based in New York indicated that problems at another landline telecommunications vendor disrupted some of the voice lines that supported trading. Other broker-dealers also reported intermittent telecommunications problems. Nevertheless, we are pleased to be able to report that the affected institutions indicated that they were able to resolve their problems through workarounds or by contacting their telecommunication service providers.

As on Thursday, all of Friday’s after-market trade processing occurred essentially without incident. One of the institutions handling the bulk of securities clearing and settlement chose to handle those operations from one of its alternate sites, although it

determine what additional measures should be taken to improve the resilience of the exchange’s cooling capacity.

⁸ The New York City Office of Emergency Management joined the SEC and the Amex in a 7:00 a.m. conference call that included a discussion of the Amex’s need for a backup steam-generation boiler.

⁹ The Amex issued a press release at approximately 9:25 a.m. to announce its plans for a delayed opening.

¹⁰ The four-day closure of the stock market following the September 11th terrorist attacks resulted primarily from access limitations and telecommunications outages in the New York financial district following the collapse of the World Trade Center towers.

reports that it could have handled the operations from its primary facility if this had been necessary.¹¹

2. The Bond Market Also Performed Well

The bond market, like the equity markets, performed relatively well during the power outage. When the power went out at 4:11 p.m., the bond market was still open. (It is essentially always open.) There was an initial burst in trading volume and an initial spike in prices, but that subsided as it began to appear that the outage was not a terrorist act and as bond traders evacuated their trading desks in New York. As with equities, there were no reported losses of trading data, and the trade processing functions (clearing, settlement, transfer) went well. During this trading, bond markets also relied on back-up power systems.

As with equities, by 6:00 p.m. on Thursday, the Bond Market Association announced that New York-based bond trading desks would be open for trading the next day, Friday. New York-based bond trading desks did, in fact, open for trading on Friday as planned. Later in the day, however, the Bond Market Association recommended that bond firms should close their trading operations early in order to permit New York-based personnel to leave early (at that time New York mass transit was still not functioning). While the bond market technically stayed open, most New York-based bond trading desks closed for the day at 2:00 p.m. As on Thursday, end-of-day trade processing went well.

Although there were no major problems in the bond market, some participants did report problems with their telecommunications. For example, some trading desks reported problems with their telecommunications connections to information services that provide real-time market data.

HURRICANE ISABEL

While Hurricane Isabel largely bypassed major financial centers such as New York on September 18-19, 2003, extensive preparations were undertaken by both private and governmental organizations to prepare for potential problems that this storm might cause.

- By Monday, September 15, Hurricane Isabel was reported to have winds of 155 miles-per-hour (making it a severe Category 4 storm) and its track indicated that it would likely hit the U.S. East Coast later that week. Accordingly, the Commission staff engaged in a number of contingency planning efforts with the markets, clearing organizations, and the securities industry, as well as with other government officials in Washington, D.C., and New York City.¹²

¹¹ In order to guard against further disruptions, this institution's primary and back-up sites maintained generator power throughout Friday, even when utility power became available.

¹² The SEC staff had been briefed by OEM officials at a FEMA conference in July 2003 on the potentially severe impact that a Category 4 hurricane could have on New York City.

- On September 15, the SEC staff contacted officials at clearing organizations to ensure that they were prepared to respond to the possibility that Hurricane Isabel might force the closure of the equity markets on September 19, which would be an Expiration Friday for options and futures. The clearing officials confirmed that adequate procedures were in place to address this possibility.
- The SEC staff also checked with officials at the New York City OEM and local FEMA regional office concerning their contingency planning for the hurricane. Officials at OEM indicated that they were scheduling a planning meeting the next day at their Emergency Operations Center. This meeting would include representatives from the Securities Industry Association (“SIA”),¹³ and the SEC staff notified officials at the New York City exchanges and clearing organizations so that they could also send representatives to this planning meeting. Staff members in the SEC’s New York regional office also were designated to attend this meeting.
- On Tuesday, September 16, the OEM planning meeting went over how city officials were likely to respond to “worst case” scenarios involving Hurricane Isabel. OEM officials later briefed SEC staff members in Washington, D.C. on the issues discussed at this meeting. In addition, because the latest storm track indicated that the Mid-Atlantic coast was likely to receive the brunt of the hurricane, SEC staff checked with officials at the Philadelphia Stock Exchange and the Maryland operations center for the NASD to ensure that their organizations had taken the necessary precautionary measures. The SEC staff also confirmed with the Amex that its back-up steam-generation boiler and electrical generators were in place.
- On Thursday, September 18, the SEC began to staff its MarketWatch monitoring center on a 24-hour basis.¹⁴ Officials at the markets, clearing organizations, OEM, SIA, and FBIIC were notified that MarketWatch staff would be available throughout Thursday and Friday for emergency communications even though the local federal government offices were closed. MarketWatch operations were maintained over Thursday night in case the storm track changed to hit the New York area directly and the markets had to decide whether to open the next day.
- As Hurricane Isabel moved through the Mid-Atlantic region on Thursday and Friday, there was relatively little impact on the securities markets. The NASD

¹³ The SIA normally has representatives in place in the New York City Emergency Operations Center whenever it is activated.

¹⁴ The SEC’s MarketWatch center has back-up electrical power from batteries and generators and has redundant market-monitoring and news-retrieval systems (including television feeds over both cable and satellite). The center also has redundant communication systems to connect the SEC with markets, clearing organizations, and other regulators in emergencies. Moreover, the SEC has established an off-site back-up MarketWatch center that operates on other power grids and also has back-up power capabilities.

operations centers did have to operate on backup electrical power on Friday, but other markets and clearing organizations operated normally throughout the day.

Overall, therefore, Hurricane Isabel did not significantly affect the securities markets. Nevertheless, these events served to illustrate once again the importance of the public and private sectors to effectively coordinate their contingency planning efforts to address potential threats to the infrastructure of the financial markets.

CONCLUSION

The ability of the nation's securities markets to operate through the August power outage and the preparations undertaken for Hurricane Isabel serve as testament to the long-standing efforts of exchanges, clearing organizations, and other key market participants to improve the resiliency of their critical operations. Moreover, when unanticipated problems arose as byproducts of the electrical grid failure, the organizations' disaster recovery teams were able to work through these problems to restore essential systems. Nevertheless, problems such as those experienced in telecommunication systems during the power outage serve as a reminder of the critical role these systems play in the orderly operation of the markets and the need to further strengthen their ability to withstand wide-scale disruptions.